

8. Miguel wants to buy an entertainment system as a gift for his sister's wedding. He estimates that when she marries 1 year from now, the system will cost \$2499, plus HST (13%). He knows he can deposit \$225 a month into an account earning 3.5%/a compounded monthly. Will he have enough money to buy the gift? Explain.

N =
I% =
P/Y =
C/Y =
END

Jun 3-8:49 AM

Opener Question (loan repayment)

Solve using the Formula and

TVM Solver

6. Bernice will repay a \$30 000 loan with monthly payments. The term of the loan is 5 years. The interest rate is 7.25%/a compounded monthly.
- a) What is the monthly payment for this loan?

$$PV = R \frac{[1 - (1 + i)^{-n}]}{i}$$

Jun 7-7:36 AM

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6. Bernice will repay a \$30 000 loan with monthly payments. The term of the loan is 5 years. The interest rate is 7.25%/a compounded monthly.
- a) What is the monthly payment for this loan?

$$PV = R \frac{[1 - (1 + i)^{-n}]}{i}$$

$$PV = 30\,000$$

$$i = 0.0725/12 = 0.00604$$

$$n = 5 \times 12 = 60$$

$$R = ?$$

$$30\,000 = R \frac{[1 - (1 + 0.00604)^{-60}]}{0.00604}$$

$$30\,000 = R \frac{[1 - (1.00604)^{-60}]}{0.00604}$$

$$30\,000 = R \frac{[1 - 0.6954]}{0.00604}$$

$$30\,000 = R \frac{[0.3046]}{0.00604}$$

$$30\,000 = R [50.2621]$$

$$30\,000 = R$$

$$596.87 = R$$

Jun 7-7:36 AM

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N =
I% =
P/Y =
C/Y =
END

$$2499 \times 1.13 = 2823.87$$

Jun 3-8:49 AM

8. Miguel wants to buy an entertainment system as a gift for his sister's wedding. He estimates that when she marries 1 year from now, the system will cost \$2499. He knows he can deposit \$225 a month into an account earning 3.5%/a compounded monthly. Will he have enough money to buy the gift? Explain.

N = 1 x 12
I% = 3.5
P/Y = 0
PMT = -225
F/V = 2743.74
P/Y = 12
C/Y = 12
END

Therefore Miguel has enough money saved for his gift.

$$2499 \times 1.13 = 2823.87$$

Jun 3-8:49 AM

11. Mario deposits \$25 at the end of each month for 4 years into an account that pays 9.6%/a compounded monthly. He then makes no further deposits and no withdrawals. Determine the balance 10 years after his last deposit.

N =
I% =
P/Y =
C/Y =
END

Jun 3-8:59 AM

11. Mario deposits \$25 at the end of each month for 4 years into an account that pays 9.6%/a compounded monthly. He then makes no further deposits and no withdrawals. Determine the balance 10 years after his last deposit.

$$N = 12 \times 4$$

$$I\% = 9.6$$

$$P/V = 0$$

$$PMT = -25$$

$$F/V = -1455.95$$

$$P/Y = 12$$

$$C/Y = 12$$

END

$$N = 10 \times 12$$

$$I\% = 9.6$$

$$P/V = 1455.95$$

$$PMT = 0$$

$$F/V = 3788.00$$

$$P/Y = 12$$

$$C/Y = 12$$

END

Jun 3-8:59 AM

9. Felix's family has decided to deposit \$350 into an annuity every 3 months for 4 years. The account will earn 3.75%/a compounded quarterly. Starting 3 months after the last deposit, Felix will withdraw the money every 3 months in equal payments for 2 years. What is the amount of each withdrawal?

$$N =$$

$$I\% =$$

$$P/V =$$

$$PMT =$$

$$F/V =$$

$$P/Y =$$

$$C/Y =$$

END

Jun 3-9:10 AM

9. Felix's family has decided to deposit \$350 into an annuity every 3 months for 4 years. The account will earn 3.75%/a compounded quarterly. Starting 3 months after the last deposit, Felix will withdraw the money every 3 months in equal payments for 2 years. What is the amount of each withdrawal?

$$N = 4 \times 4$$

$$I\% = 3.75$$

$$P/V = 0$$

$$PMT = -350$$

$$F/V = 6011.05$$

$$P/Y = 4$$

$$C/Y = 4$$

END

$$N = 2 \times 4$$

$$I\% = 3.75$$

$$P/V = 6011.05$$

$$PMT = -783.50$$

$$F/V = 0$$

$$P/Y = 4$$

$$C/Y = 4$$

END

Jun 3-9:10 AM

6. Carollynne has found her dream home in Pictou, Nova Scotia. It is selling for \$500 000. When she retires 2 years from now, she plans to sell her present house for \$450 000 and move. She decides to set aside \$900 every two weeks until she retires in a fund earning 10.5%/a, compounded every second week. What is the difference between the future value of Carollynne's investment and the extra \$50 000 she needs for her dream home?

$$N =$$

$$I\% =$$

$$P/V =$$

$$PMT =$$

$$F/V =$$

$$P/Y =$$

$$C/Y =$$

END

Jun 3-8:33 AM

6. Carollynne has found her dream home in Pictou, Nova Scotia. It is selling for \$500 000. When she retires 2 years from now, she plans to sell her present house for \$450 000 and move. She decides to set aside \$900 every two weeks until she retires in a fund earning 10.5%/a, compounded every second week. What is the difference between the future value of Carollynne's investment and the extra \$50 000 she needs for her dream home?

$$N = 2 \times 26$$

$$I\% = 10.5$$

$$P/V = 0$$

$$PMT = -900$$

$$F/V = 51\,960.58$$

$$P/Y = 26$$

$$C/Y = 26$$

END

5. Mary needs \$750 a year for 3 years to buy textbooks. She will start university in 1 year. Her savings account pays 4%/a compounded annually. How much needs to be in her account now to pay for the books?

$$N =$$

$$I\% =$$

$$P/V =$$

$$PMT =$$

$$F/V =$$

$$P/Y =$$

$$C/Y =$$

END

Jun 3-8:33 AM

Jun 3-9:17 AM

5. Mary needs \$750 a year for 3 years to buy textbooks. She will start university in 1 year. Her savings account pays 4%/a compounded annually. How much needs to be in her account now to pay for the books?

N= 1 x 3
I% = 4
P/Y = 2091.32
PMT = -750
F/V = 0
P/Y = 1
C/Y = 1
END

Jun 3-9:17 AM

N=
I% =
P/Y =
PMT =
F/V =
P/Y =
C/Y =
END

Jun 3-8:32 AM

Annuity Problems

TI83 -TVM Solver Instructions on p568-573

Work Period

p498-500 q. 6,8,9,11,14

p506-508 q. 4,5,6,9,12

May 20-8:42 AM

p 499 #6 \$500,000 - 2 yrs from now

450,000 - house

900 biweekly 10.5% / a

$n = 26 \times 2 = 52$
 $i = 10.5$
 $0.105 / 26 = 0.0040$

$$A = \frac{R[(1+i)^n - 1]}{i}$$

$$= \frac{900[(1+0.0040)^{52} - 1]}{0.0040}$$

$$= \frac{900[(1.0040)^{52} - 1]}{0.0040}$$

$$= \frac{900[1.2307 - 1]}{0.0040}$$

$$= \frac{900[0.2307]}{0.0040}$$

$$= 51,908.05$$

May 20-9:48 AM

p 499 #9 $R = 100$
 $i = 0.04/2 = 0.02$
 $n = 21 \times 2 = 42$

$$A = \frac{R[(1+i)^n - 1]}{i}$$

$$= \frac{100[(1.02)^{42} - 1]}{0.02}$$

$$= \frac{100(2.29 - 1)}{0.02}$$

$$= \frac{100(1.29)}{0.02}$$

$$= \frac{129}{0.02}$$

$$= 6496.22$$

$$A = P_0(1+i)^n$$

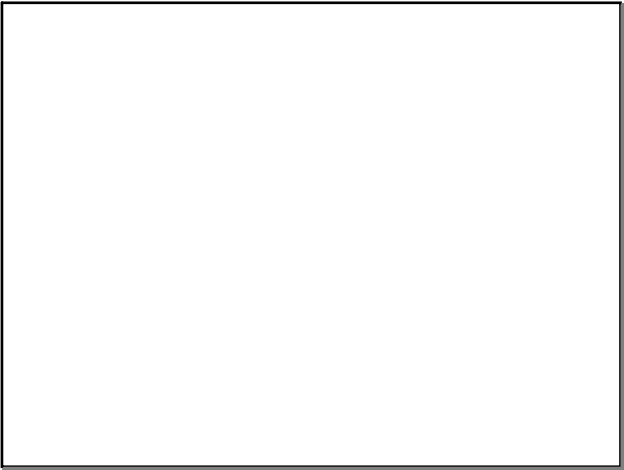
$i = 0.04/2 = 0.02$
 $n = 4 \times 2 = 8$
 $P_0 = 6496.22$

$$= \$7599.64$$

May 20-10:03 AM

p 499 #11

May 25-9:50 AM



May 31-9:48 AM